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#Using SQLITE to create a single table
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import sqlite3
import os

# Function that prints out a table containing some records
# using SQL select command
def print_table(sql):
    db.execute(sql)
    all_rows = db.fetchall()
    for row in all_rows:
        for i in row:
            print(i, end=' | \t')
        print()
    print()

# Remove database if it exists; probably not a good idea
if os.path.isfile('database.db'):
    os.remove('database.db')

# Create database and open database
conn = sqlite3.connect('database.db')
db = conn.cursor()

# Create table
db.execute("""CREATE TABLE book
    (bookID INTEGER PRIMARY KEY,
     author TEXT,
     title TEXT,
     year INTEGER,
     publisher TEXT)""")

# Insert values using simple insertion
db.execute("INSERT INTO book VALUES (1,'JK Rowling',
    'Harry Potter and the Order of the Phoenix',
    2003,'Bloomsbury')");

# Insertion specifying the attribute names
db.execute("INSERT INTO book (bookID,author,title,year,publisher) \
    VALUES (2,'Michael Morpurgo','War Horse', 1982,'HarperCollins')");
```

```
# Auto adding the value for the primary key using NULL  
db.execute("INSERT INTO book (bookID,author,title,year,publisher) \  
VALUES (NULL,'Michael Morpurgo','Private Peaceful', \  
2003,'HarperCollins')");
```

```
# Insertion using variables  
author="Roald Dahl"  
title="The BFG"  
publisher="Penguin"  
db.execute("INSERT INTO book (bookID,author,title,publisher) \  
VALUES (NULL,?, ?, ?)",(author,title,publisher));
```

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# Things to experiment with:
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# What happens if you give the same value for the primary  
# key for more than one record?  
# Remove PRIMARY KEY from create tables, what happens now?
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```
# updating records  
db.execute("UPDATE book SET year=1982 WHERE author='Roald Dahl'")  
# or  
year=1982  
db.execute("UPDATE book SET year=? WHERE author='Roald Dahl'",(year,))  
#or  
sql="UPDATE book SET year=1982 WHERE author='Roald Dahl'"  
db.execute(sql)
```

```
# Deleting records  
# db.execute("DELETE FROM book WHERE author='JK Rowling'")
```

```
# selecting data from a database  
sql="SELECT * FROM book"  
print_table(sql)
```

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conn.commit()
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conn.close()
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